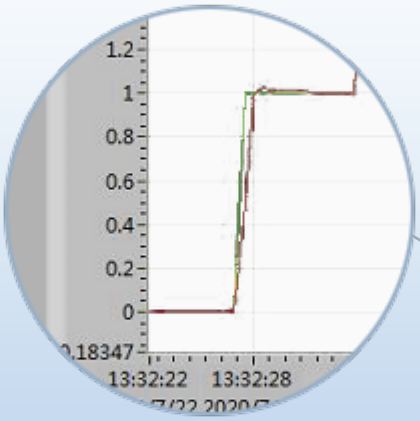
ACCU Measurement & Control

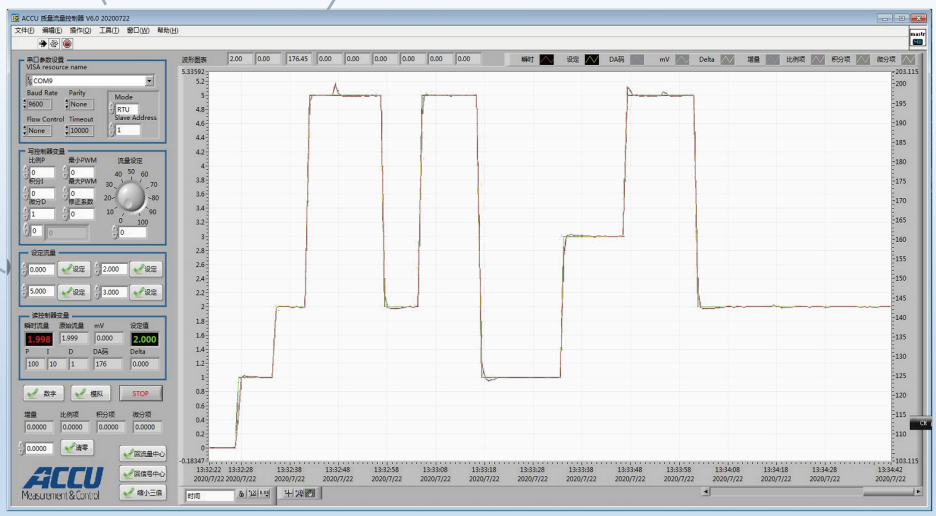
ACU10P Series

Digital Pressure Controller /Gauge









Introduction

The ACU10P series pressure gauges/pressure controllers are of direct-through design, with a measurement range from 100 KPa to 10 MPa (both absolute and gauge pressures are available). Additionally, a differential pressure transmitter is provided. This series of instruments boasts high accuracy and good repeatability, and is available in two types: front pressure control and back pressure control.

The ACU10P series comes standard with a piezoelectric diaphragm pressure sensor and a digital circuit board, providing high-precision, stable, and reliable pressure measurement and control. The basic digital PC board has all the basic functions required for measurement and control. In addition to the standard RS485 output signal, ACU10P also provides analog I/O signals.

Principle Of Measurement

The ACU10P pressure sensor is a pressure-sensitive resistance bridge located on the surface of a silicon chip. The chip is drilled from its backside, creating a pressure diaphragm inside the chip. The thickness of this diaphragm determines the pressure range. When pressure acts on the chip, the diaphragm bends, causing the resistance value of the resistance bridge to change proportionally to the pressure. The measuring element is separated from the external pressure by a thin and highly sensitive stainless steel diaphragm. The sealed cavity between the diaphragm and the measuring element is filled with oil.

Product Application

The ACU10P pressure controller can be equipped with an integrated control valve or a split control valve. It is a proportional electromagnetic control valve with ultra-fast and smooth control characteristics. We have different series of control valves corresponding to specific application fields. Standard applications use standard direct-operated valves, while high-flow rate applications use pilot valves.

Application fields: Semiconductor processes, gas and liquid chromatographs, steam pressure control during MOCVD processes, gas pressure protection control during extrusion molding processes, pressure control of autoclaves/reactors, etc.

Specifications

	ACU10PM Pressure Gauges	ACU10PC Pressure Controller
Accuracy	± 1% F.S	
pressure span ratio	Pressure gauge 1：50	Pressure controller 1：20
Repeatability	± 0.1% F.S	
Sensor response time	0.2s	
control stability	≤±0.05% F.S（Determination conditions：1 L/min N_2）	
Operating temperature	-10~+70℃	
Temperature sensitivity	0.1%F.S/℃	
leakage rate	1×10^{-9} Pa m^3/S	
Influence degree of azimuth(90° change)	＜0.03KPa（Abs/gauge pressure sensor） ＜0.6KPa （Differential pressure sensor）	
Preheating time	Neglect	

Components

	ACU10PM Pressure Gauges	ACU10PC Pressure Controller
Material	Stainless Steel	
Process connection	G3/8"	
Sealing materia	FFKM，Vilton，NBR，EPDM，Others	
Degree of protection	IP40	

Characteristics

	ACU10PM Pressure Gauges	ACU10PC Pressure Controller
Power	15~24Vdc	
Digital output	RS485	
Electrical signal interface	DB15	

Model chart

ACU10P	L	M	A	M	N	001M	007	A1	B1	5	8	V	B
Serial number													

Ranges

L	Low
M	Middle
B	Big

Product type

M	Pressure gauge
C	Pressure controller

Pressure type

A	Absolute pressure
G	Gage pressure

Pressure range

M	3MPa
Z	10MPa(Pressure gauge)

Display Status

N	Without LCD display
X	With LCD display

Pressure range

100K	100 KPa
300K	300 KPa
500K	500 KPa
001M	1 MPa
005M	5 MPa
010M	10 MPa
000M	User Specified

Measured medium

Code	See Media Reference Table for details

Input signal

A1	0~5VDC
A2	4~20mA
A3	1~5VDC

Output signal

B1	0~5VDC
B2	4~20mA
B3	1~5VDC

Power supply

5	±15VDC
4	24VDC

Communication

8	RS485
2	RS232

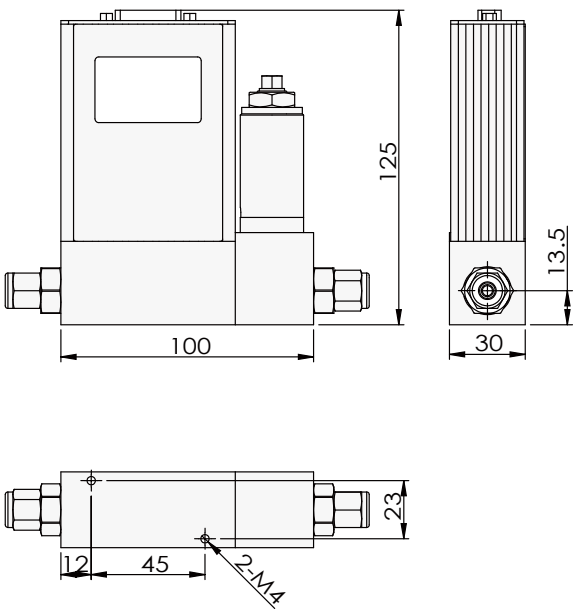
Sealing material

P	FFKM
V	Vilton
N	NBR
E	EPDM
Y	Others

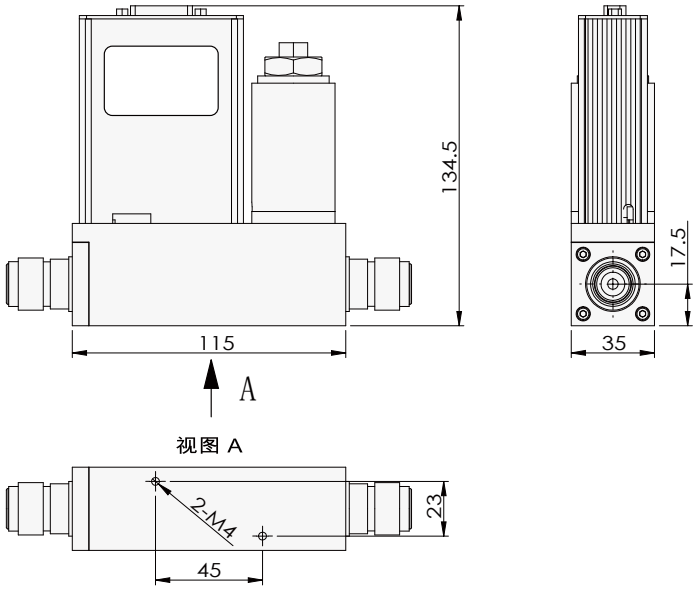
Connectors

A	φ3
B	φ6
C	φ8
D	φ10
E	φ12
F	1/8″
G	1/4″
L	Flange
Y	Others

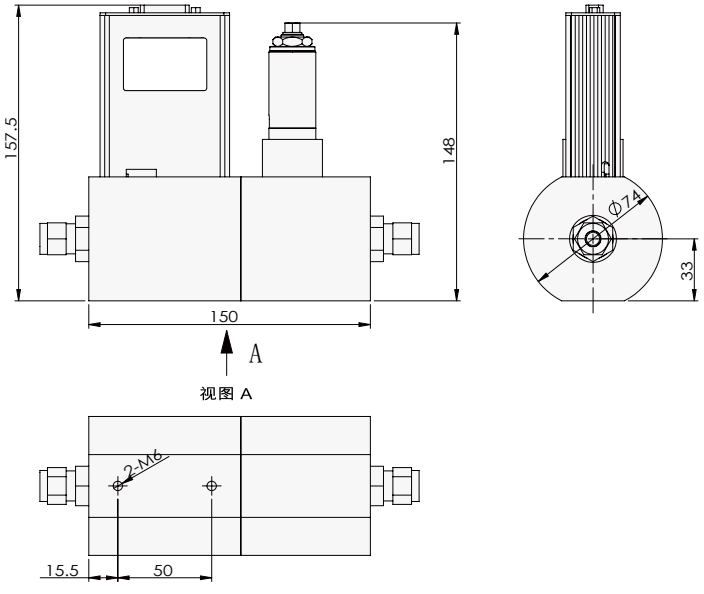
Dimensions(mm) ACU10P（Low：≤300KPa）



Dimensions(mm) ACU10P（Middle：300KPa~500KPa）



Dimensions(mm) ACU10P（Big：1MPa~10MPa）



BEIJING ACCUFLOW TECHNOLOGY CO., LTD.

Room 1522/23,Building B,Ruichuang International Center,
No.8Wangjingdong Road,Chaoyang District,Beijing

400-005-7868
010-68108757
www.accuflow.tech